

the reference value and an actual value under the control of the voltage control amount of the q axis, as recited in independent claim 1.

Yamada discloses a control device for controlling a driving current of a salient pole type permanent magnet (Abstract and col. 1, lines 5-8). As discussed during the interview, Yamada teaches changing a phase of current supplied to the salient pole type permanent magnet motor depending on a detected value of the demagnetization (see col. 2, lines 43-47). Yamada discloses a CPU 24 that calculates a demagnetization rate $K\Phi$ by dividing an obtained magnetic flux Φ by a reference flux Φ_{ref} that is obtained before demagnetization (see Fig. 2 steps 100 and 102, and col. 5, lines 27-44). Yamada does not disclose that the demagnetization rate $K\Phi$ is obtained by comparing an actual value (under control) of a voltage control amount of the q axis with a reference value that is the voltage control amount of the q axis when the salient pole type permanent magnet motor is not demagnetized. Thus, Yamada fails to disclose a controller that (i) obtains a reference value that is a voltage control amount of a q axis in a case where a permanent magnet motor is not demagnetized, according to a current and a motor revolution number of the permanent magnet motor being controlled, and (ii) estimates the amount of demagnetization based on a comparison between the reference value and an actual value under the control of the voltage control amount of the q axis, as recited in independent claim 1. Therefore, claim 1 is patentable over Yamada.

Because claims 2-10 incorporate the features of claim 1, these claims also are patentable over Yamada for at least this reason, as well as for the additional features these claims recite. For example, as discussed during the personal interview, nowhere does Yamada disclose that the salient pole type permanent magnet motor includes an inverter, and that a voltage control amount is corrected by adjusting dead time of transistors in the inverter when voltage applied to the inverter changes, as recited in claim 9, or that a voltage control

REMARKS

Claims 1-10 are pending in this application. By this Amendment, claims 1-10 are amended for clarity and to further define the recited features, and the Abstract is amended. Support for the amendments to claim 1 can be found, for example, in original claims 3-7. Claims 3 and 6 are amended to be consistent with amended claim 1. Support for the amendments to claims 4, 5, 7 and 8 can be found, for example, in the specification at page 16, lines 11-15. Support for the amendments to claim 9 can be found, for example, in Fig. 6 and page 13, line 6 to page 14, line 13 of the specification. Support for the amendments to claim 10 can be found, for example, in Fig. 6 and page 14, lines 8 and 9 of the specification. No new matter is added. Reconsideration of this application in view of the above amendments and the following remarks is respectfully requested.

Applicants appreciate the courtesies shown to Applicants' representative by Examiners Luo and Donovan in the June 18, 2008 personal interview. Applicants' separate record of the substance of the interview is incorporated into the following remarks.

I. Information Disclosure Statement

The Examiner is requested to consider the references cited in the June 26, 2008 Information Disclosure Statement and return to Applicants' undersigned representatives a fully-initialed Form PTO-1449.

II. Rejection of the Claims

Claims 1-10 are rejected under 35 U.S.C. §102(b) over Yamada et al. (Yamada), U.S. Patent No. 5,650,706. The rejection is respectfully traversed.

Yamada fails to disclose a controller that (i) obtains a reference value that is a voltage control amount of a q axis in a case where a permanent magnet motor is not demagnetized, according to a current and a motor revolution number of the permanent magnet motor being controlled, and (ii) estimates the amount of demagnetization based on a comparison between

amount is corrected by adjusting dead time in measuring a voltage control amount when voltage applied to the inverter change, as recited in claim 10.

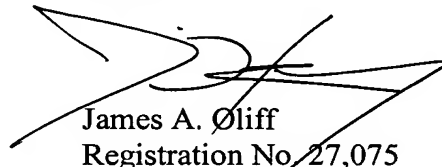
Thus, it is respectfully requested that the rejection be withdrawn.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachments:

Petition for Extension of Time
Amended Abstract

Date: July 9, 2008

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